

**LOST TRAIL
NATIONAL WILDLIFE REFUGE**

Marion, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 2000

**U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM**

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REVIEWS AND APPROVALS

Lost Trail National Wildlife Refuge

Marion, Montana

National Bison Range Complex
Moiese, Montana

ANNUAL NARRATIVE REPORT Calendar Year 2000

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3/31/04
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7/13/04
Date

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7/16/04
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INTRODUCTION

Lost Trail National Wildlife Refuge is located in the west-central portion of Flathead County, approximately 25 air-miles west of Kalispell, Montana in the serene and picturesque mountain drainage known as Pleasant Valley. Pleasant Valley is located 20 miles north-northwest of the small, rural town of Marion, Montana. By automobile, the Refuge is approximately 40 miles from Kalispell. The Refuge consists of 7,885 acres; an additional 1,440 acres of State Lands (school trust lands) lie within the established Executive boundary. There are four grazing leases associated with these state lands; these leases will be "leased-transferred" to the Service when the leases expire.

The Refuge was officially established on August 24, 1999. Authorities for the acquisition of the Refuge are: the Migratory Bird Conservation Act of 1929 as amended and the Refuge Recreation Act of 1969. Under the Migratory Bird Conservation Act, the Refuge will be managed for incidental fish and wildlife-oriented recreational development, the protection of natural resources and/or the conservation of endangered or threatened species. Funding for the Refuge was provided through the Migratory Bird Conservation Fund and the Land and Water Conservation Fund Act of 1965.

Elevations on the Refuge vary from 3,488 feet to 4,600 feet. The Valley was formed during the Pleistocene Period by glacial and sedimentary activity. Wetland habitats consist of sub-irrigated wet meadows composed primarily of reed canary grass. Upland areas are a mosaic of prairie grasslands dominated by a variety of cool season native and nonnative grasses. Surrounding wooded slopes are composed of various coniferous and deciduous timber species. The Refuge encompasses the 160-acre Dahl Lake, a partially drained shallow lacustrine wetland system maintained by several watersheds.

The habitat diversity of the Refuge supports a wide variety of wildlife species. At least 14 species of migratory and breeding waterfowl utilize wetland areas. Various species of marsh and shorebirds are present during the summer months. Upland game bird species and raptors are also present on the Refuge.

Resident mammal species include white-tailed deer, mule deer, elk, moose, and black bear. The threatened grizzly bear and the endangered gray wolf are known to occasionally inhabit the Pleasant Valley Area.

The Refuge is a satellite unit of the National Bison Range Complex located at Moiese, Montana. Day-to-day administration and operations are the responsibility of the on-site Refuge Manager.

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A. HIGHLIGHTS

On June 30, approximately 100 neighbors and guests joined staff and speakers to dedicate the Refuge as the 519th refuge. The event was held overlooking Dahl Lake with beautiful background scenery and excellent weather conditions. Guest speakers included, Ken McDermond, Assistant Regional Director - FWS, Denver, Rebecca Manning, aide to Senator Max Baucus, Dick Cromer, Executive Vice President - Montana Power Company, Dan Vincent, Regional Supervisor, Montana Department of Fish, Wildlife and Parks, Bruce Bugbee, American Land Exchange and a consultant for Montana Power Company, Fred Matt, Tribal Chair, Confederated Salish and Kootenai Tribes and Tim Wiersum, Natural Resource Conservation Service - Kalispell.



Figure 1 Assistant Refuge Manager Ray Washtak and manager trainee Stacy Ridgway at Lost Trail NWR dedication June 30, 2000. D.W.



Figure 2 Sam and Jean Wakefield, S.R.

Jean Jackson Wakefield, author of Where the Green Grass Grows and granddaughter of one of the Valley's original homesteaders, visited the Refuge on July 26. Ms. Wakefield shared her memories of living in the Pleasant Valley and gave the staff an auto tour of historic sites on the Refuge.

In 2000, the Refuge began a partnership with the local Kalispell chapter of the Rocky Mountain Elk Foundation; an article about the Refuge and the RMEF's partnership appeared in the December issue of Bugle magazine.

B. CLIMATIC CONDITIONS

Weather information for the Refuge is obtained from the National Weather Service automated station at Glacier International Airport in Kalispell.

January's weather was warmer and drier than normal. The month's high was 40 degrees on the 8th, the low was -5 degrees on the 31st. A total of 1.1 inches of precipitation fell (0.4 inches below normal). At month's end all upland units on the WPA's were covered with approximately 10-12 inches of snow; Lost Trail had a snow cover of 18 inches.

Generally dry winter weather continued in February. Precipitation totaled 0.14 inches, an inch below normal. Kalispell's official low was -4 degrees Fahrenheit on February 20; the high was 48 degrees Fahrenheit on February 29. The low at Lost Trail was -4 degrees on February 4, 11, and 18. February's mountain

snowpack was below normal due to lack of snowfall; the Flathead drainage averaged 12% below normal for the month. Snow cover totaled approximately 6 inches at the headquarters.

Weather conditions during April were warmer than usual. A high of 75 was recorded on the 27th. The low was 18 degrees Fahrenheit on the 14th. The monthly precipitation totaled 1.10 inches, 33% below the 30-year average.

Drought conditions continued during the early spring and summer months. Fire conditions went to Stage 2 on July 26 with restrictions on smoking outside vehicles and fires outside designated fire grates. These conditions were upgraded to stage three on July 31, including further restrictions. The Confederated Salish and Kootenai Reservation went to Level 5 fire restrictions on August 10 along with southwest Montana, prompting closure to public use of Fish and Wildlife Service lands including National Bison Range, Ninepipe and Pablo NWR and the Lake County WPAs. The rest of western Montana reached Level 5 on August 25, closing Swan River and Lost Trail NWR and the Flathead County WPAs.

August brought several new temperature records: a low of 30 degrees recorded on the 28 tied the previous low of 30 set on August 25, 1910; The month set four other records for cold temperatures, all 33 degrees or colder. A record high of 98 degrees was recorded on Aug. 9 eclipsing the old record of 96 recorded in 1991. A little more than .25 inches of rain fell during the month making August 2000 the 16th driest month on record.

The monthly precipitation of 0.40 inches in October was 0.37 inches below the monthly average of 0.87 inches. The National Weather Service did not record an official snowfall for the month. The high was 73F on October 10, with the low of 15F on October 6.

November brought colder than normal temperatures (a low of 12 degrees) and the fall's first snowfall. December brought continued sub-zero temperatures on many days throughout the month; snowfall for the month at the Refuge was estimated to be 12 inches.

**Table 1. 2000 Weather Conditions,
Kalispell, Montana**

MONTH	TEMPERATURE		PRECIPITATION 2000
	High	Low	
January	40	-5	1.10
February	48	-4	0.14
March	64	19	1.03
April	75	18	1.10
May	76	24	1.13
June	87	28	1.56
July	97	32	0.48
August	98	30	0.26
September	84	19	1.39
October	73	15	0.40
November	47	1	0.37
December	41	-13	0.80
TOTALS			10.51

C. LAND ACQUISITION

1. Land Acquisition

Grazing and haying rights associated with the 240-acre state lease (lease # 3053301) in section 20 were transferred to the FWS on February 28.

2. Easements

In partnership with the Natural Resources Conservation Service (NRCS), the Service continued to work to protect various wetland habitats on the Refuge. Under auspices of the Wetland Reserve Program (WRP) and prior to Refuge acquisition, the NRCS purchased a wetland easement from the Montana Power Company on 1,707 acres within the Refuge. This wetland acreage is located in the west-central portion of the Refuge.

Several meetings were held with NRCS personnel to discuss wetland restoration plans. The plans were not finalized by the end of the year therefore, no WRP restoration occurred on the Refuge in 2000.

3. Other

Nothing to report.

D. PLANNING

1. Master Plan

NBR staff members and Manager Washtak began work on the Refuge's CCP "goals and objectives"; several meetings were held throughout the year concerning development of the CCP.

2. Management Plan

See Master Planning above.

3. Public Participation

Washtak and Wiseman attended several meetings with the Montana Department of Fish, Wildlife and Parks "Citizen's Advisory Board" concerning development and implementation of the Refuge hunting plan.

4. Compliance with Environmental and Cultural Resource Mandates (CECRA)

Nothing to report.

5. Research and Investigations

Nothing to report.

6. Other

Nothing to report.

E. ADMINISTRATION

1. Personnel

Lost Trail National Wildlife Refuge is managed as an entity of the National Bison Range Complex. Refuge Manager Ray Washtak, GS-11, PFT, is the on-site manager. Stacy Ridgway arrived at the Refuge on February 13, as a manager trainee.

Table 2. Five year comparison of Lost Trail NWR personnel.

	Permanent Full-time	Career-Seasonal	Term	Temporary
2000	2	0	0	0
1999	1	0	0	0

2. Youth Programs

Nothing to report.

3. Manpower Programs

Nothing to report.

4. Volunteer Program

Don and Joann Rolls arrived as Refuge volunteers on June. They immediately went to work on facility maintenance, shop clean up and arrangement, storage site preparation and numerous other maintenance items. Don and Joann provided more than 540 hours of volunteer labor during 2000. They returned to their home in Colorado for a well-deserved rest in August.

The Montana Academy biology and science class assisted with a set-up and monitoring of amphibian traps on the Refuge, the class also assisted with Refuge weed mapping and Tansy Ragwort control. Their volunteer hours totaled an estimated 240 hours (10 days, seven students and one instructor, three hours/day).

Montana Academy students spent 54 hours assisting with weed mapping and Tansy Ragwort monitoring and control. The students also spent 1135 hours of volunteer time pulling fence along Pleasant Valley Road.

Twenty-five members of the Rocky Mountain Elk Foundation spent more than 400 volunteer hours improving Refuge habitat by removing more than 1.5 miles of 5-strand fence on the Refuge. Five miles of 5-strand fence were made "wildlife friendly" by removing the top and fourth wire thus allowing the Refuge's larger ungulates easier access over existing fence lines.



Figure 3 Montana Academy fence pull.

S.R.

Table 3. Volunteers and volunteer hours for 2000.

Activity	Number of Volunteers	Volunteer Hours
Surveys and Censuses		168
Habitat Restoration		
Wetland		
Upland		594
Pest Plant Control		254
Nest Structures		16
Public Education and Recreation		
Provide Visitor Services		68
Outreach		59
Planning and Administration		
General Administration		126
TOTALS		1243

**Figure 4** Results of Rocky Mountain Elk Foundation efforts.

R.W.

5. Funding

Funding for Lost Trail is included in the overall appropriation for the National Bison Range complex. Refer to the 2000 NBR narrative for information.

6. Safety

Open Hearth completed inspection on the wood stoves in quarters 1 and 2. The quarters 2 stove piping was cleaned and serviced.

7. Technical Assistance

Washtak spent a day with Federal Highways engineer Mike Dotson, assisting with a road and parking lot inventory on refuge units.

8. Other

Washtak attended several meetings in February concerning WRP planning for the Refuge, prescribed fire planning for the WPAs, and Flathead County weed board meetings.

Garner and Ridgway attended the Partners in Flight meeting February 22 in Great Falls. They also attended the initial sessions of the Montana Chapter of The Wildlife Society, and the Montana Loon Working Group Meeting.

Garner worked with Greg Nuedecker and Jim Stutzman on drafting a technical note and letter from the Partners program and NBR to NRCS regarding the WRP easement. On February 16, Vaughan, Washtak, and Garner attended a WRP meeting with NRCS in Kalispell to discuss restoration plans for the Refuge.

F. HABITAT MANAGEMENT

1. General

The Refuge is bordered by Montana Department of State Lands, Plum Creek Timber Company and two private ranches. Wetland habitats consist of sub-irrigated wet meadows composed primarily of reed canary grass. Upland areas are a mosaic of prairie grasslands dominated by a variety of cool season native and nonnative grasses. Surrounding wooded slopes are composed of various coniferous and deciduous timber species.

Plum Creek Timber Company completed G.P.S. mapping of fence lines along the north and northeastern Refuge boundaries. There is a considerable amount of Plum Creek land within these fence lines as well as an amount of Refuge lands lying outside the existing fence lines. Washtak and Ridgway met with NRCS and Plum Creek personnel to discuss the fencing issues in July.

2. Wetlands

Wetlands within the Refuge are composed of sub-irrigated wet meadows composed primarily of reed canary grass, with introduced meadow grass mixes, cattails, rushes and various sedges. The Refuge is dominated by the 160-acre Dahl Lake, a partially drained shallow lacustrine wetland system maintained by several watersheds. Water levels within the lake are subject to seasonal fluctuations. Emergent wetlands on the Refuge have been altered by several drains which were utilized by former Ranch employees to enhance haying opportunities within several monotypic reed canary grass meadows. These wetlands will be restored with simple ditch plugs. There are also several small stock ponds scattered throughout the Refuge. Under the Wetland Reserve Program, Pleasant Valley Creek and associated wetlands will be restored once restoration is completed.

No management was applied to wetlands on the Refuge in 2000; proper management is awaiting completion of the CCP.

3. Forests

Forested areas on the Refuge are composed of mixed coniferous and deciduous timber areas occupying the surrounding slopes of the valley. Tree species include larch, subalpine fir, douglas fir, grand fir, spruce, cedar, aspen, lodgepole pine, ponderosa pine, black cottonwood and white birch. All species are a mix of new and old growth.

No management was applied to forested areas in 2000. Forest management plans will be developed as part of the CCP process.

4. Croplands

There are no croplands on the Refuge.

5. Grasslands

Grasslands areas on the Refuge are composed of a mosaic of prairie grasslands dominated by a mix of cool season native grass species (rough fescue, Idaho fescue and blue bunch wheatgrass), nonnative species such as smooth brome and a mix of native wild flowers.

With the exception of force account spotted knapweed control efforts, no other management was applied to the Refuge grasslands this year. Future management activities are pending completion and approval of the CCP.

6. Other Habitats

Nothing to report.

7. Grazing

There was no grazing on the Refuge this year. Future grazing activities are dependent on final development of the CCP.

8. Haying

There was no haying on the Refuge this year; it is anticipated that haying will be used as a management tool upon completion and approval of the Refuge's CCP.

9. Fire Management

In 2000, the Service and the state Department of Natural Resources and Conservation (DNRC) completed a state wide cooperative agreement. The agreement allows for initial attack and suppression of wildfires on Refuge lands in the "north valley" by DNRC personnel in exchange for FWS suppression efforts on state lands within the boundary of the Charles M. Russell National Wildlife Refuge.

In July, a five-acre fire on Meadow Peak, four miles south of the Refuge was quickly extinguished by DNRC personnel.

On August 8, Washtak assisted DNRC fire crews with fire line control on the Dahl Lake Fire. Liaison and coordination were also provided to DNRC personnel. The Dahl Lake fire burned approximately 200 acres on adjacent Plum Creek property. The fire came within a mile of the Refuge and was contained within four days and declared "out" on August 12.

Washtak and Ridgway completed S-131 fire fighting training on September 5.



Figure 5 FWS Firefighters at Dahl Lake fire. R.W.



Figure 6 Dahl Lake fire. August 1999, R.W.

10. Pest Control

In July, Washtak, NBR staff Lindy Garner, Lynn Clark, and Tracy Shutt met with the state weed coordinator to discuss Tansy Ragwort control. Tansy had been discovered on the Refuge in several locations, and was found extensively on adjacent Plum Creek Timber Company lands. The discussion centered around surveying high priority areas in which encroachment could occur.

In September, Shutt mapped Tansy Ragwort and knapweed infestations on the Refuge with a G.P.S. unit.

In September, approximately 160 acres of knapweed infestations were sprayed with Tordon by helicopter at a rate of 1 pint per acre. Herbicide costs and helicopter flight time were paid through a grant from the Rocky Mountain Elk Foundation.

Manager trainee Ridgway sprayed approximately 90 acres of knapweed infested grasslands with Tordon that were infested with spotted knapweed. Ridgway also assisted with G.P.S. mapping of sprayed knapweed units on the Refuge.

In June, Ridgway began a cooperative effort with Lincoln County and Flathead County weed personnel to monitor, map, G.P.S. and spray Tansy Ragwort as it was located within the Refuge. Transline, a herbicide, provided by Lincoln County was used for control efforts.

11. Water Rights

At the close of 2000, the proposed amendments to all existing water rights on the Refuge from a "livestock use" to a "wildlife use" had not been completed by the Montana Power Company per their agreement at the time of title transfer (August 1999). MPC had agreed to rectify this issue by the end of 2000. To date, \$50,000 of acquisition funding is held in escrow until the matter is resolved by MPC.

12. Wilderness and Special Areas

Nothing to report.

13. WPA Easement Monitoring

Nothing to report.

G. WILDLIFE

1. Wildlife Diversity

The habitat diversity of the Refuge supports a wide variety of wildlife species. Fourteen species of migratory and breeding waterfowl utilize wetland areas. These include mallard, gadwall, cinnamon teal, green-winged teal, lesser scaup, wood duck, redhead, common goldeneye, and Canada geese. Various species of marsh and shore birds are present during the summer months. These include grebes, herons, gulls, killdeer, sandhill cranes, dowitchers, sandpipers, common snipe, bitterns, and black terns.

Upland game bird species include spruce grouse, blue grouse, and ruffed grouse. The Refuge lies within the historic range of the Columbian sharp-tailed grouse.

Raptor species such as northern harriers, red-tail hawks, Swainson's hawks, American kestrels, and great-horned owls are present.

Resident mammal species include white-tailed deer, mule deer, elk, moose, and black bear. Furbearers include fisher, pine marten, lynx, wolverine, and bobcat. Muskrat, badger, and Columbian ground squirrels are also present.

2. Endangered and/or Threatened Species

The bald eagle nest adjacent to Dahl Lake was successful this year with the hatching of two eaglets. However a very strong windstorm in June snapped off the upper portion of the "snag tree" the nest was located in. Both eaglets were found dead in the nest debris. The golden eagle nest behind the headquarters on Plum Creek lands successfully hatched and fledged two eaglets.

The threatened grizzly bear and the endangered gray wolf are known to travel through the Pleasant Valley area on occasion.

Three sets of fresh wolf tracks were observed on Pleasant Valley Road at the headquarters on February 5. It appeared the wolves walked the county road to Dahl Lake at night, then headed south across the Refuge.

A local rancher reported observing four wolves near the Horse Ranch on February 19, however we could not confirm the sighting.



Figure 7 Misty morning geese on Headquarters pond. R.W.



Figure 8 Duck family on Headquarters pond.

R.W.

3. Waterfowl

a. Ducks

For information on the midwinter waterfowl aerial count, see Section G-3b, Wildlife, Waterfowl, Geese.

In April, wood ducks were observed nesting in several, newly placed nesting boxes.

Washtak and Ridgway conducted the breeding pair survey in mid-May. See Table 4 for results.

Table 4. 2000 LTR breeding duck pairs and estimated production

Species	Number Breeding	Estimated Production
Mallard	56	98
Gadwall	8	14
Green-winged Teal	3	5
Blue-Winged/Cinnamon Teal	38	6751
American Wigeon	16	9
Northern Shoveler	26	46
Redhead	13	23
Ring-neck	15	27
Canvasback	1	2
Lesser Scaup	77	136
Common Goldeneye	8	14
Bufflehead	6	11
Common Merganser	1	2
Hooded Merganser	1	2
Wood Duck	4	7
Ruddy Duck	55	97
SUBTOTAL	321	567

b. Geese

Washtak completed the midwinter waterfowl and bald eagle survey in January. Annual population comparisons for the North Valley area cannot be made since the northern portion of the survey (Flathead County) was cancelled last year due to weather conditions. The majority of waterfowl observed this year were located along open stretches of the Flathead River and along warm water sloughs.

During the waterfowl pair count on May 25, two flocks of geese were observed on Dahl Lake for a total of 84 geese; three pairs with 14 goslings were observed on the Lake. The first sighting of goslings on the Refuge occurred on the fifth of May on the pond at the headquarters.

The goose brood count (Flathead County survey) was flown by Ray Washtak and pilot Bob Twist on June 5 and by Dean Vaughan and pilot Bob Twist (Lake County survey) on June 6 and 7. Production on the Refuge was estimated to be 22 goslings compared with 34 goslings observed in 1999.

4. Marsh and Water Birds

Two pairs of cranes were observed on the Refuge on a regular basis during the spring months; it is not known if nesting occurred. During the waterfowl pair count, Washtak observed only one of the cranes, indicating possible nesting may have occurred.

5. Shorebirds, Gulls, Terns and Allied Species

A variety of shorebirds, gulls, terns, and allied species were observed on a regular basis throughout the spring and early summer months with lesser yellowlegs and kill deer commonly observed.

Garner coordinated the annual midsummer "Loon Day Watch" with MTFWP biologists. The "watch" was held July 15 on Dahl Lake, no loons were observed.

6. Raptors

Washtak completed the midwinter waterfowl and bald eagle survey in January. Six adult eagles and three immature eaglets were observed along the Flathead River. One adult was observed on Swan River Refuge; two adults and two immature eagles were observed on Flathead WPA.

Throughout the year a variety of raptor species were observed on almost every occasion while conducting routine day-to-day operations. Red-tails, northern harriers, Swanson's and rough-legs were commonly observed.

7. Other Migratory Birds

The first sighting of red-wing blackbirds on the Refuge was on February 22.

Large flocks of Bohemian waxwings were observed during most of February.

Two Neotropical Migratory bird surveys were established in 1999. A walking survey along Pleasant Valley Creek consisting of nine stops was initialized to record changes in species and abundance as creek restoration occurs. A Pleasant Valley Road roadside survey, consisting of 19 stops, runs along the county road and South Pleasant Valley Road. Its purpose is to obtain base line species records and to monitor changes that may occur with wetland restoration. The Pleasant Valley Creek survey was run three times in 2000. The Roadside survey was run twice. Results are in Table 5.

Lynn Clark, NBR biologist met with members of the Audubon chapter to introduce them to the Pleasant Valley Creek neo-tropical migratory bird survey route and to observe their survey procedures and bird identification knowledge. It is hoped the group will be able to conduct the survey in future years.

Clark completed the second migratory bird "roadside" survey around Dahl Lake in June. A three-toed woodpecker, two eaglets in the golden eagle nest, and four pairs of sandhill cranes were observed.

Table 5. 2000 Lost Trail Neotropical Migratory Bird Survey Results

	Pleasant Valley Creek	Pleasant Valley Road		Pleasant Valley Creek	Pleasant Valley Road
American Coot	0	1	Olive-sided Flycatcher	2	3
American Crow	0	2	Pine Siskin	61	3
American Kestrel	3	4	Red-breasted Nuthatch	2	1
American Robin	11	24	Ruby-Crowned Kinglet	16	8
American Wigeon	0	4	Red Crossbill	11	5
Audubon Warbler	3	5	Ring-necked Pheasant	1	0
Bald Eagle	0	3	Red-naped Sapsucker	1	2
Bank Swallow	0	20	Red-tailed Hawk	5	6
Barn Swallow	22	4	Ruffed Grouse	1	0
Black-capped Chickadee	14	13	Red-winged Blackbird	0	29
Brown-headed Cowbird	2	8	Sandhill Crane	0	8
Black Tern	0	6	Savannah Sparrow	12	16
Brewer's Blackbird	3	0	Sora	0	5
Canada Goose	26	1	Song Sparrow	12	3
Chipping Sparrow	11	20	Solitary Vireo	1	5
Cliff Swallow	44	4	Spotted Sandpiper	1	3
Clark's Nutcracker	3	0	Townsend's Solitaire	0	1
Common Raven	5	15	Tree Swallow	1	3
Common Snipe	2	9	Three-toed Woodpecker	0	1
Common Yellowthroat	2	30	Unknown Duck	0	1
Dark-eyed Junco	5	10	Unknown Sandpiper	0	1
Dusky Flycatcher	0	1	Unknown Woodpecker	2	3
European Starling	4	29	Unknown	0	1
Golden-crowned Kinglet	6	3	Unknown Sparrow	1	0
Golden Eagle	0	3	Vesper Sparrow	3	26
Greater Yellowlegs	0	1	Violet-green Swallow	0	25
Hairy Woodpecker	2	0	Warbling Vireo	9	8
Killdeer	1	8	White-breasted Nuthatch	0	1
Mallard	0	6	Western Meadowlark	1	28
Mountain Bluebird	2	0	Western Tanager	2	2
Mountain Chickadee	2	0	Western Wood-pewee	6	7
Nashville Warbler	1	0	Willow Flycatcher	7	5
Northern Flicker	7	19	Yellow-headed blackbird	0	13
Norther Harrier	0	1	Yellow Warbler	2	2
Orange-crowned Warbler	1	2	TOTAL	342	485

8. Game Mammals

a. Elk

Approximately 200 elk utilize the Refuge as winter range. The elk were observed nearly every day in January, February, and March, generally on south facing slopes north of Pleasant Valley Road in groups of 25-150. Montana Department of Fish, Wildlife and Parks completed an aerial elk survey on February. One hundred cows, 57 calves and 14 spike elk were observed on the refuge.

b. Mule Deer

Exact populations of mule deer utilizing the Refuge are unknown. Mule deer generally occupy the higher, forested Plum Creek Timber Company lands surrounding the Refuge and are therefore not commonly observed on the Refuge. Sightings of mule deer are more common in the winter months as the "mulies" utilize the lower elevations of the Refuge as winter range.

c. White-tailed Deer

White-tailed deer are common to the Refuge and were observed nearly every day in 2000. It is suspected that various areas of the Refuge are used as "fawning sites." No formal survey was done this year to determine exact populations however those populations utilizing the Refuge are estimated to be between 100 and 125.

d. Moose

Moose were commonly observed in May and June. Observed were a mature bull, a yearling bull, a yearling cow and calf, a cow and one calf, and a cow with two calves.

During the summer months, there were several incidents of moose calves being caught in the Refuge fence lines. One calf was cut out of the fence line along Pleasant Valley Road and several other calves were observed having difficulty getting through fences.

9. Small Mammals

a. Amphibians and Rattles

Trina Morris, NBR complex volunteer, installed three herpetology arrays (pitfall traps) to gather preliminary information in those reptiles and amphibians listed on the CCP species list. Morris and Garner coordinated with the neighboring Montana Academy to continue to check the arrays as well as installing an additional array as a summer high school project.

For results see Table 6.

Table 6. 2000 Lost Trail NWR Pitfall Traps Species List

Amphibians

Frogs

Tailed Frog (*Ascaphus truei*)
Bullfrog (*Rana catesbeiana*)
Northern Leopard Frog (*Rana pipiens*)
Spotted Frog (*Rana pretiosa*)
Pacific Treefrog (*Hyla regilla*)

Toads

Western Toad (*Bufo boreas*)

Salamanders

Long-toed Salamander (*Ambystoma macrodactylum*)
Tiger Salamander (*Ambystoma tigrinum*)
Couer d'Alene Salamander (*Plethodon vandykei*)

Mammals

Shrews

Masked Shrew (*Sorex cinereus*)
Merriam Shrew (*Sorex merriami*)
Dusky Shrew (*Sorex obscurus*)
Vagrant Shrew (*Sorex vagrans*)
Northern Water Shrew (*Sorex palustris*)

Mice

Deer Mouse (*Peromyscus maniculatus*)
Western Jumping Mouse (*Zapus princeps*)

Pika

Pika (*Ochotona princeps*)

Rats

Bushytail Woodrat (*Neotoma cinerea*)

Voles

Boreal Redback Vole (*Clethrionomys gapperi*)
Mountain Phenacomys (*Phenacomys intermedius*)
Meadow Vole (*Microtus pennsylvanicus*)
Mountain Vole (*Microtus montanus*)
Longtail Vole (*Microtus longicaudus*)
Richardson Vole (*Microtus richardsoni*)

10. Marine Mammals

Nothing to report.

11. Other Resident Wildlife

a. Black Bear

Several sightings of a single black bear on the Refuge between the arena and the headquarters were made in June.

b. Mountain Lion

During June, George and Deanna Jameson, volunteers at NBR, observed a lone mountain lion near the "horse arena."

c. River Otter

In January, a lone river otter was observed in Pleasant Valley Creek near the headquarters. In February, two otters were observed on the ice at the Headquarters pond.

12. Fisheries Resources

Fisheries resources are limited on the Refuge. A MDFWP survey conducted in 1998 on the headquarters pond, Meadow Creek and Pleasant Valley Creek revealed red-shiners, yellow perch, pumpkinseed and suckers. Dahl Lake has very low dissolved oxygen levels and does not support a fisheries resource.

13. Wildlife Propagation and Stocking

Nothing to report.

14. Surplus Animal Disposal

Nothing to report.

15. Scientific Collections

Nothing to report.

16. Animal Control

Nothing to report.

17. Marking and Banding

Nothing to report.

18. Disease Prevention and Control

Nothing to report.

H. PUBLIC USE

1. General

Since the Refuge is newly established, many public use activities are not allowed at this time. Refuge policy and regulations require the development of various public use plans before public activities can be allowed. These plans will receive public input during the administrative planning process.

Public use activities that are currently allowed under an interim compatibility determination are: wildlife observation, environmental interpretation and wildlife photography. Fishing is not allowed on the Refuge.

The Refuge is currently not open to hunting.

2. Outdoor Classrooms - Students

Seven Pleasant Valley School children visited the Refuge on two occasions to follow-up on their Canada Goose nesting project; visits were made in April to observed nesting pairs and again in May to determine nesting success.

In June, eight adults enrolled in Flathead Valley Community college's bird watching course visited the Refuge.

3. Outdoor Classrooms - Teachers

Nothing to report.

4. Interpretive Foot Trails

Nothing to report.

5. Interpretive Tour Routes

There are no established tour routes on the Refuge. Pleasant Valley Road, a county road, which traverses through the middle of the Refuge from east to west, and the North 1019 Refuge Road allow Refuge visitors motorized use through portions of the Refuge.

6. Interpretive Exhibits/Demonstrations

Nothing to report.

7. Other Interpretive Programs

In February, Washtak presented a Refuge slide show and program to 15 members of the Libby Bird Club.

8. Hunting

Hunting is not allowed on the Refuge. Hunting is allowed on Plum Creek Timber Company lands that surround the Refuge. As in 1999, hunter use of these lands was heavy during this year's big game season.

After completion of a contract survey, in the fall of 2000, the Refuge staff discovered that nearly seven miles of boundary fence were not installed on surveyed lines.

In October, maps designating the Refuge boundaries were placed in information boxes at each end of the Refuge to assist hunters in recognizing Refuge and Plum Creek boundaries. Refuge boundaries were also flagged to assist with boundary delineation due to a lack of existing boundary fences. An estimated 500 acres of Refuge land and 500 acres of Plum Creek Timber company lands lie either inside or outside of these existing fence lines.

When the Refuge was in private ownership, the "sport shooting" of Columbian ground squirrels was a popular activity on Ranch grasslands. In April and May of this year, numerous "gopher hunters," who were "unaware" of Refuge regulations prohibiting "gopher shooting" were contacted in the field and informed about the "no gopher shooting" restrictions.

9. Fishing

No fishing is allowed on the Refuge. The Refuge does not support a viable fisheries resource.

10. Trapping

Trapping is not allowed on the Refuge.

11. Wildlife Observation

Under the interim compatibility determination, public wildlife observation is allowed on the Refuge. Visitors observed beaver, blue birds, deer, elk, moose, Columbian ground squirrels, various marsh and water birds and various raptors.

12. Other Wildlife-Oriented Recreation

Nothing to report.

13. Camping

Camping is not allowed on the Refuge at this time.

14. Picnicking

Picnicking is not allowed on the Refuge at this time.

15. Off-Road Vehicle Use

Off-road travel is not permitted on Refuge lands.

16. Other Non-Wildlife Oriented Recreation

Nothing to report.

17. Law Enforcement

State wardens, along with Refuge Officers from the Bison Range Complex assisted with routine patrol during the big game hunting season. No violations on Refuge lands occurred this year.

18. Cooperating Associations

Nothing to report.

I. EQUIPMENT AND FACILITIES

1. New Construction

In June, two 500 gallon, above ground gasoline and diesel storage tanks were installed at the shop building along with a 250-gallon "waste oil" tank.

2. Rehabilitation

In March, NBR maintenance crews repaired underground water lines at the well on the west end of the Refuge. In June, NBR maintenance crews replaced the concrete pad in front of the shop buildings to alleviate drainage problems and subsequent flooding of the shop during heavy rainfalls. A wind storm in June, resulted in minor damage to Quarter's # 2 when four trees fell against the side of the residence. The 500-gallon propane at the headquarters residence was moved away from adjacent electrical service boxes during July. Electrical wiring for the above ground storage tanks was completed by an electrician in August. A hot water heater was installed in the horse arena apartment in October. The wood burning stoves in quarters 1 and 2 were inspected for creosote and cleaned. Septic tanks at all residence's and the horse arena were pumped in September. In December, additional electrical service outlets were installed in the shop building.

Fire crews assisted with caulking the Refuge office building to prevent brown bats from entering the office. The crews also assisted with mowing fire breaks and cleanup of debris around the headquarters and horse arena residences.

3. Major Maintenance

Nothing to report.

4. Equipment Utilization and Replacement

Nothing to report.

5. Communications Systems

Harp Line Construction completed installation of the underground telephone line to the map room (Headquarter area); Century Tel Communications completed interior line installation in April.

6. Computer Systems

Nothing to report.

7. Energy Conservation

Nothing to report.

8. Other

A fire proof cabinet was purchased for storage of various Refuge documents.

J. OTHER ITEMS

1. Cooperative Programs

A special use permit was issued to the Kootenai National Forest Service office for the use of North 1019 Refuge Road for a salvage logging sale on Forest Service lands north of the Refuge.

2. Other Economic

Nothing to report.

3. Items of Interest

In October, Washtak and Ridgway met with Lorrie Woods, area forester for the Plum Creek Timber Company, to discuss access issues concerning the northeast road which lays adjacent to the Refuge boundary. Plum Creek terminated Service use of this portion of the road, as they believe the Service had "no need" for use of the road.

4 Credits

Ray Washtak, on-site Refuge Manager and Stacy Ridgway-Hoehn, Manager Trainee provided basic information for this report. Terri Middlemist completed final compilation of the information and final typing.

K. FEEDBACK

Nothing to report.

Appendix 1.
Additional photos
Lost Trail National Wildlife Refuge Dedication,
June 30, 2000



Figure 9 NBR Complex Project Leader Dave Wiseman, LTR Assistant Manager Ray Washtak S.R.



Figure 10 Ken McDermond, FWS, Region 6, Cort Freeman, Montana Power Company, Fred Matt, Salish and Kootenai Tribes, Dan Vincent, Montana Fish, Wildlife, and Parks, Region 1 Supervisor, Dave Wiseman, at podium, Rebecca Manna, aide for Senator Max Baucus, Bruce Bugbee, American Land Exchange, private consultant for MPC, Tim Wiersum, Natural Resources and Conservation Service. S.R.



Figure 11 Mary McDonald, Natural Resources and Conservation Service, Guest, Bruce Bugbee, American Land Exchange, Missoula, Gary Sullivan, FWS, Realty, Cort Freeman, Montana Power Company, Ray Washtak, Fred Matt, Confederated Salish and Kootenai Tribes, Tim Wiersum, Natural Resources and Conservation Service, Rebecca Manna, aide for Senator Max Baucus, Ken McDermond, FWS, Region 6, Dave Wiseman, Dan Vincent, Montana Fish, Wildlife, and Parks, Region 1 Supervisor. S.R.



Figure 12 Tent and podium with Dahl Lake in background.

S.R.



Figure 13 Lost Trail Refuge
Volunteers Joann and Don Rolls. S.R.



Figure 14 NBR employee Terri
Middlemist at one of two
information tables. S.R.



Figure 15 Lynn Verlanic, NBR employee, at one of two information
tables. S. R.



Figure 16 LTR Dedication visitor observing waterfowl on Dahl Lake. S.R.



Figure 17 Robin Bown, Region 2, with LTR visitors observing wildlife across Dahl Lake. S.R.